UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/127,167	07/29/1998	STEPHEN A. BURDEAU	TN112	9794

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EXAMINER
ZHEN, LI B

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
    application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☒ Other: <u>definition of Cluster</u>

DETAILED ACTION

1.   Claims 1 – 11 are pending in the application.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1 – 3 and 5 – 11 are rejected under 35 U.S.C. 102(b) as being anticipated

by U.S. Patent NO. 5,287,453 to Roberts.

4.   As to claim 1, Robert teaches a clustered computing environment [cluster

computer system includes a plurality of independently operated computer systems; see

abstract, col. 1, line 65 – col. 2, line 10, col. 3, lines 25 – 40] comprising a plurality of

nodes [plurality of independently operated computer systems; see abstract], enabling a

distributed network application [AVR software; col. 10, lines 1 – 15] that requires

centralized administration via a master node [master operates to carry out automatic

volume recognition (AVR)...operations on a cluster-wide basis; col. 2, lines 48 - 61], the

method comprising:

receiving an administrative request [a message is received indicating that a

volume has been mounted] from the clustered computing environment at an originating

node [AVR_action routine also included as part of the CMGR module is used whenever

a message is received from the AVR software...when a message is received indicating

that a volume has been mounted; col. 9, lines 57 - 67];

determining whether the originating node is a designated master node [CMON

module sends a message to the CMGR module indicating whether or not it is the

master; col. 10, lines 30 - 67] for the distributed network application [master operates to

carry out automatic volume recognition (AVR)...operations on a cluster-wide basis; col.

2, lines 48 - 61]; and

routing the administrative request [sending a message to the CMGR module of

the master member to determine if the volume can be mounted cluster wide] from the

originating node [cluster member] to the designated master node [master member] if the

originating node is not the designated master node [it is the responsibility of the CMGR

module to check with the master (if it is not the master) to determine if the volume can

be mounted cluster wide...this involves sending a message to the CMGR module of the

master member via control pipe; col. 9, line 57 - col. 10, line 30].

5.   As to claims 2, Roberts teaches creating an instance of a named pipe [open-pipe

function] that provides a connection between the originating node and the master node

[CMGR module 12-220 includes routines for performing an open-pipe function wherein

it gets and opens a CM.PIPE file for a particular cluster member; col. 9, lines 10 - 30],

sending the administrative request to the master node via the named pipe [sending a

message to the CMGR module of the master member via control pipe; col. 9, line 57 -

col. 10, line 30].

6.   As to claims 3, Roberts teaches receiving a reply from the master node via the

named pipe [CMGR module of the master member determines that the mounted

volume/device is unique, it then sends an appropriate message to the CMGR module of

each cluster member indicating its approval of the mounted volume/device; col. 10, lines

1 - 15].

7.   As to claims 5 – 7, these are apparatus claims that correspond to method claims

1 – 3; note the rejections to claims 1 – 3 above, which also meet these apparatus

claims.

8.   As to claim 8, Roberts teaches a cluster computing environment [cluster

computer system includes a plurality of independently operated computer systems; see

abstract, col. 1, line 65 – col. 2, line 10, col. 3, lines 25 – 40] comprising a plurality of

nodes [plurality of independently operated computer systems; see abstract] over which

a distributed network application [AVR software; col. 10, lines 1 – 15] executes, wherein

the distributed network application requires centralized administration via a designated

master node [master operates to carry out automatic volume recognition

(AVR)...operations on a cluster-wide basis; col. 2, lines 48 - 61], a server program

[CMGR module] executing on each node [cluster member; col. 10, lines 1 – 15] that

intercepts administrative requests [a message is received indicating that a volume has

been mounted] from the clustered computing environment at that node [AVR_action

routine also included as part of the CMGR module is used whenever a message is

received from the AVR software...when a message is received indicating that a volume

has been mounted; col. 9, lines 57 - 67], and routes the administrative requests

[sending a message to the CMGR module of the master member to determine if the

volume can be mounted cluster wide] from the originating node [cluster member; col.

10, lines 1 – 30] to the designated master node [master member] if the originating node

is not the designated master node [it is the responsibility of the CMGR module to check

with the master (if it is not the master) to determine if the volume can be mounted

cluster wide...this involves sending a message to the CMGR module of the master

member via control pipe; col. 9, line 57 - col. 10, line 30].

9.   As to claim 9, Roberts teaches determining if the originating node is the

designated master node [CMON module sends a message to the CMGR module

indicating whether or not it is the master; col. 10, lines 30 - 67] before routing the

administrative request [it is the responsibility of the CMGR module to check with the

master (if it is not the master) to determine if the volume can be mounted cluster

wide...this involves sending a message to the CMGR module of the master member via

control pipe; col. 9, line 57 - col. 10, line 30].

10.   As to claims 10 and 11, they are rejected for the same reasons as claims 2 and 3

above.

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

12.   Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts.

13.   As to claim 4, Roberts teaches receiving the administrative request [sending a

message to the CMGR module of the master member via control pipe; col. 9, line 57 -

col. 10, line 30] at the master node [when the CMGR module of the master member

determines that the mounted volume/device is unique; col. 10, lines 1 - 15] and

processing of the request [master operates to carry out automatic volume recognition

(AVR)...operations on a cluster-wide basis; col. 2, lines 48 - 61]. Roberts does not

specifically teach calling an administrative application programming interface to initiate

processing of the request. Given the teaching of Roberts, it would have been obvious

to a person of ordinarily skilled in the art at the time of the invention to include an

application programming interface in the CMGR module of Roberts because the API

would provide a common point of access to the various administrative functions of the

master node.

Response to Arguments

14.   Applicant's arguments with respect to claims 1 - 11 have been considered but are

moot in view of the new ground(s) of rejection. The following is the examiner's

interpretation of specific limitations in the claims.

In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., "each node in a clustered computing environment maintains administrative

control", p. 5, lines 26 – 27; "performs the administration for the entire application,

including, e.g., bringing a component on-line, taking a component offline, or checking

the status of an individual component", p. 6, lines 25 – 27) are not recited in the rejected

claim(s). Although the claims are interpreted in light of the specification, limitations from

the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993).

The applicant provided a definition for a Microsoft cluster environment and

provided arguments based on the definition. Examiner respectfully notes that none of

the claims recite a Microsoft cluster environment and the claims do not require each

node to maintain administrative control. In addition, <u>Microsoft Computer Dictionary</u>

(Fifth Edition) defines a cluster as:

> cluster n. (definition 4): A group of independent network servers that operate--
> and appear to clients—as if they were a single unit. A cluster is designed to
> improve network capacity by, among other things, enabling the servers within a
> cluster to shift work in order to balance the load. By enabling one server to over
> for another, a cluster network also enhances stability and minimizes or eliminates
> downtime caused by application or system failure.

Examiner notes that the Microsoft definition of a cluster does not recite or suggest that each node in the cluster maintains administrative control. It appears that the feature, "each node in a clustered computing environment maintains administrative control", is only relevant to the Microsoft cluster environment. Since the claims only recite a cluster, a reasonable interpretation of the claims would define cluster as a group of independent network servers.

Additionally, applicant argues that administration includes bringing components on-line, taking a component offline, or checking the status of a component [p. 6, lines 25 – 27]. Examiner respectfully notes that the term administration request is very broad and none of the claims defines an administration request as bringing components on-line, taking a component offline, or checking the status of a component. Since the claims do not further define an administration request, a reasonable interpretation of the claims would define an administrative request as any form of management request.

Conclusion

15.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (703) 305-3406. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

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Examiner
Art Unit 2126

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February 26, 2004

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